

**Amendments to the Abstract:**

The abstract was objected to because it exceeds the word limit of 150 the provided abstract (07/19/2004) contains 184 words. To correct, please replace the originally filed abstract with the following amended abstract, provided in both marked-up and clean form for Examiner's convenience.

**Marked-up Form**

[0048] A ~~model~~ system for simulating the performance of a subterranean well, starts with a base model wherein input logging data, pressure transient data and PVT data is introduced into the ~~base~~ model. A numerical interpreter then calculates the predicted well performance ~~of the well~~. A match system compares actual performance data with calculated performance data based on the ~~base~~ model through reiterative loop for modifying the base model to provide a match between the actual performance data and the predicted performance data to optimize the ~~base~~ model. ~~The method for generating the optimized performance data in accordance with the subject invention system~~ incorporates the steps of introducing known pressure transient data, well logging data and PVT data for the well into a base model and producing a performance prediction from the ~~base~~ model. ~~These results are compared with actual performance data and the model is modified to generate a performance prediction that matches the actual performance for producing an optimized model.~~ The method system is particularly useful because it accounts for and adjusts the performance prediction based on non-Darcy factors ~~effecting~~ affecting the fluid parameters in the well.

**Amendments to the Abstract (cont'd):**

Clean Form

[0048] A system for simulating the performance of a subterranean well, starts with a base model wherein input logging data, pressure transient data and PVT data is introduced into the model. A numerical interpreter then calculates the predicted well performance. A match system compares actual performance data with calculated performance data based on the model through reiterative loop for modifying the base model to provide a match between the actual performance data and the predicted performance data to optimize the model. The system incorporates introducing known pressure transient data, well logging data and PVT data for the well into a base model and producing a performance prediction from the model. The system is particularly useful because it accounts for and adjusts the performance prediction based on non-Darcy factors affecting the fluid parameters in the well.